

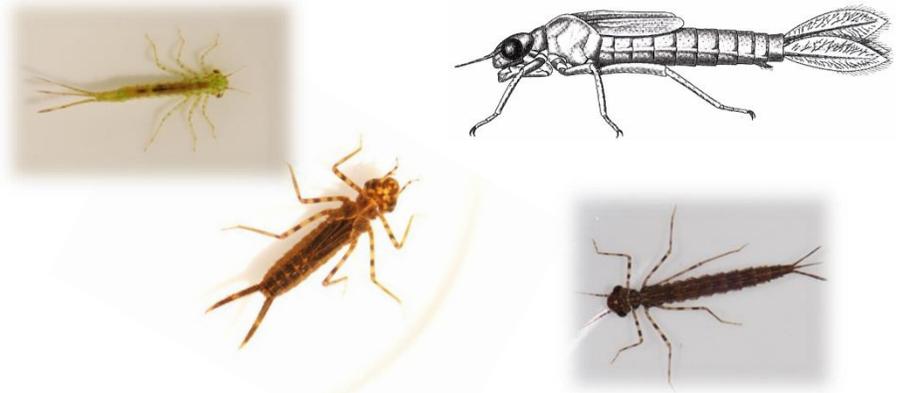
October 2014

## miniSASS Nunu of the month

Vol. 1 Issue 3

### Damselflies!!!

Kingdom: *Animalia*  
 Phylum: *Arthropoda*  
 Order: *Odonata*  
 Suborder: *Zygoptera*



### Interesting facts: Damselflies

Damselflies may look pretty and soft, as their name implies, but they are far from being weak. They are actually strong carnivorous predators. Damselflies can be found in the vegetation habitat. They have good eyesight and a modified lower lip called the labial mask. This mask lies folded under the head and is released to capture prey. This feature is a unique physical trait that can be used to distinguish between different damselfly families.

The three tail-like plates are called caudal lamellae and function as gills, which are used to extract oxygen from the water. Damselflies score a 4 in the miniSASS score sheet as they are moderately sensitive to pollution.

Damselflies undergo incomplete metamorphosis. Their life cycle begins as an egg, which hatches into a larva, and later grows and changes into the flying adult. In miniSASS we only look for the larval stage which they spend in the river.

### Terms To Keep In Mind

Before you get wet and dirty in your miniSASS expedition, here are some important terms you should know:

#### **Rocky/Sandy Rivers**

Rivers are termed "rocky" when they have rocks and are usually found near the source of the river. Rivers without rocks are termed "sandy". Rocky and Sandy rivers score differently under the Ecological Category table, due to the different variety of habitats available.

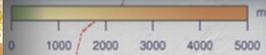
#### **Biotope**

A biotope is a biological habitat type. We look at three types when using miniSASS:

- **Vegetation-** are plants along the stream banks, as well as within the stream
- **Rock-** are the small to large rocks and
- **GSM-** the gravel/sand/mud.

When sampling, you need to search within ALL of these biotopes.

## TriWaters Tour Rearing Up to Go!



Photos & map provided by: Franz Fuls

Three adventurers from three different continents, Troy Glover (Canada), Brett Merchant (Australia) and Franz Fuls (South Africa) will be tackling the rapids of the Vaal and Orange Rivers, for a grueling three month paddling expedition! Starting in January 2015 at the source of the Vaal River, the team will paddle for approximately 2,500 kilometers and end at the mouth of the Orange River in Alexander Bay.

Passing through a wide variety of landscapes and communities, the team will be engaging with locals on river health and conservation, using miniSASS as a citizen science river monitoring tool.

Leading up to their departure, each member of the team have started practicing their miniSASS sampling skills in their own countries. miniSASS sites can now be found in

in Australia (near Adelaide) and in Canada (Ontario, Kingston).

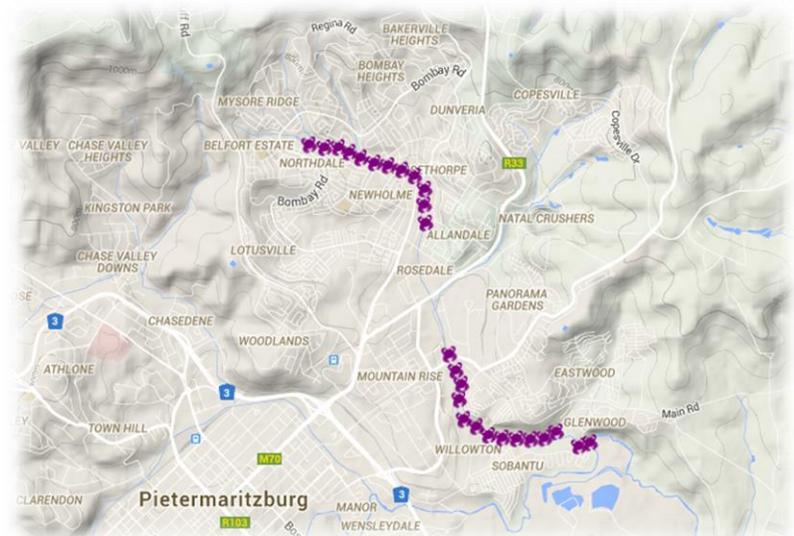
The miniSASS team would like wish the TriWaters adventurers all the best as they prepare for this physically demanding, yet rewarding journey!

### miniSASS exposes the Baynespruit as a seriously modified river.

The Baynespruit River is one of the main tributaries to the uMsunduzi River in Pietermaritzburg (KwaZulu-Natal).

UKZN Researcher, Ms Adwoa Awuah, conducted a miniSASS study along the river from the source in Northdale to the mouth where it meets the Duzi. She found it to be in a seriously modified condition throughout its length.

This condition is largely driven by urbanisation and industrialisation within the area. This is a critical concern considering that more rivers are becoming seriously modified!



The Baynespruit River showing a seriously modified condition.

SADC Citizen Science Network Training Symposium



On the 30<sup>th</sup> of September this year, the Wildlife and Environment Society of South Africa (WESSA) and GroundTruth facilitated and hosted the "SADC Citizen Science Network Training Symposium" at Umgeni Valley Nature Reserve in Howick (KwaZulu-Natal).

For three days, delegates representing the SADC countries (South Africa, Botswana, Zambia, Zimbabwe, Swaziland and Lesotho) attended the course. The purpose of the course was to provide a networking platform and training initiative for high profile decision makers in the water sector, both from civil society and government departments. The event was sponsored by the British High Commission and supported by the Department of Water and Sanitation (DWS).

Research Manager for the Water Research Commission (WRC), Mr Bonani Madikizela, presented on the history and development of miniSASS, as an example of a budding citizen science tool.

Dr Mark Graham (Groundtruth) provided some practical insight into the use and applicability of the tool, in measuring stream and river health. Other speakers, such as Anisa Kahn (WESSA, Eco-Schools) spoke on the importance of using citizen science tools in schools, which will encourage pupils to actively care for their environment. Mike Ward (WESSA) also enlightened the attendees on the global movement and value of citizen science, and how such action can initiate positive change in water resource management. Many agreed that the highlight of the course was the miniSASS field work that was conducted on the Ingobongo stream below Shelter falls, in the Umgeni Valley Nature Reserve. The complete thrill of searching for and identifying the key macroinvertebrate groups proved a successful and easy teambuilding exercise.

Each delegate went away inspired and empowered! Equipped with the miniSASS knowledge and skills and with various collaborative partnerships now identified, there is greater potential for improving water resource monitoring and management in Southern Africa.



Left: delegates identifying nuns and finding their miniSASS score.



Right: going later online to capture their score on the miniSASS website.

## Cata Village Community Workshop



On the 4<sup>th</sup> of October 2014, Groundtruth and WESSA facilitated a miniSASS training and stream ecology workshop, for members of the Cata Cultural Village in the Eastern Cape. The Village is a well-known destination for tourists, providing knowledge and insight into the rich culture and traditions of the Xhosa people.

Community members were first introduced to the principles of stream ecology and the miniSASS method, and later tested their knowledge in the local stream. From identifying the tiny nusus, to the scoring and capturing of the site online, the local people were excited to see that they could actively monitor and therefore improve the health of their catchment!

Photos provided by: WESSA, Dr Jim Taylor

## *Contact us*

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